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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BELLINGER, JASON R

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 10/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/612,835

Applicant(s)

SAFE ET AL.

Examiner

Jason R Bellinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Drawings

1. The drawings are objected to because it is unclear whether or not Figure 9 requires a "Prior Art" label, since the Brief Description states that the Figure shows "a schematic cross-sectional view of a track and driving sprocket of a prior art belt wrapped over the drive sprocket". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the

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description: 2000, 9000, 7002, 710, 7001, 1131. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 730, 1050. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified

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and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "1132" has been used to designate both the center line of the drive lug and the first sidewall of the drive lug. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

Replacement Drawing Sheets

Drawing changes must be made by presenting replacement figures which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments, or remarks, section of the amendment. Any replacement drawing sheet must be identified in the top margin as "Replacement Sheet" (37 CFR 1.121(d)) and include all of the figures appearing on the immediate prior version of the sheet, even though only one figure may be amended. The figure or figure number of the amended drawing(s) must not be

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labeled as "amended." If the changes to the drawing figure(s) are not accepted by the examiner, applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless applicant is notified.

Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin.

Annotated Drawing Sheets

A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be submitted or required by the examiner. The annotated drawing sheets must be clearly labeled as "Annotated Marked-up Drawings" and accompany the replacement sheets.

Timing of Corrections

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.85(a). Failure to take corrective action within the set period will result in ABANDONMENT of the application.

If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings MUST be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability.

Specification

5. The disclosure is objected to because of the following informalities: In line 17 of page 19, the reference character "944" should be replaced with reference character -- 941-- to correspond to the drawings.

In line 26 of page 21, the term "tighten" should be replaced with the term -- tightened--. In line 27 of page 21, the term "stayed" should be replaced with the term -- stays--. Both these corrections are for grammatical clarity.

Appropriate correction is required.

Claim Objections

6. Claim 1 and 10 are objected to because of the following informalities: The term "further" should be removed from line 2 of claims 1 and 10.

In line 8 of claim 1, the term --that-- should be inserted after the term "such". The above corrections are for grammatical clarity.

It is suggested that the term "surface" in line 1 and the phrase "the surface" in line 5 be replaced with the phrase --ground surface-- and --the ground surface--, respectively, for clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

8. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is indefinite due to the fact that it is unclear what is actually being claimed in line 9 by the phrase "present a surface substantially parallel to a *radial* acting through". It is unclear what element acts radially.

9. Claim 9 recites the limitation "the drive belt" in line 4. There is insufficient antecedent basis for this limitation in the claim. Independent claim 1, from which claim 9

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depends, sets forth a track. It is therefore unclear whether "the drive belt" is the same element as the track previously set forth, or a separate element of the invention.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-5 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Witt. Witt shows a vehicle having a track 15 with inner and outer surfaces; the inner surface includes a plurality of driving lugs attached thereto. Witt also shows a driver sprocket 12 having a driving portion 126, and the sidewalls of the drive lugs make an angle with respect to the inner surface of the track 15 such that when the driving lug engages the driver sprocket 12, the sidewall of the lug presents a surface that is substantially parallel to a radial line acting through the driving portion 126 of the drive sprocket (best shown in Figure 2).

The sprocket 12 engages at least one (and more than two) driving lugs when the sprocket 12 is driving the track 15. The driving portion 126 includes a sleeve 128 that is adapted for rotation.

The driving lugs have walls that present a tangent to the driving portion 126 of the sprocket 12 that forms a non-parallel line presenting a declining surface to tend to force the driving portion 126 into engagement with the track 15.

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12. Claims 1-3 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagorcka. In Figures 5 and 11, Nagorcka shows a vehicle having a track with inner and outer surfaces; the inner surface includes a plurality of driving lugs 11 attached thereto. A driver sprocket 5 having a driving portion 7, and the sidewalls of the drive lugs 11 make an angle 13 with respect to the inner surface of the track such that when the driving lug 11 engages the driver sprocket 5, the sidewall of the lug 11 presents a surface that is substantially parallel to a radial line acting through the driving portion 7 of the drive sprocket 5.

The sprocket 5 engages at least one (and more than two) driving lugs 11 when the sprocket 5 is driving the track.

The driving lugs 11 have walls that present a tangent to the driving portion 7 of the sprocket 5 that forms a non-parallel line presenting a declining surface (the radius indicated at 12) to tend to force the driving portion 7 into engagement with the track.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 10-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Witt. The track 15 of Witt includes a pitch line positioned between the interior and

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exterior surface of the track 15. Witt contains all of the limitations as set forth in paragraph 11 above, but does not specify the first sidewall of the driving lugs making an angle with respect to the pitch line of the track, wherein the angle is in the range of $[90 - (360/2n)] \pm 5, 3, 2, 1, \text{ or } 0$ degrees $\{n \text{ being the number of driving lugs on the track}\}$. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the angle of the first sidewall of the driving lugs at any angle suitable to cause a positive interaction between the driving lug and drive portion of the sprocket, for the purpose of preventing slippage between the track and sprocket, thus reducing wear of both the track and the sprocket.

Witt shows the second sidewall of the driving lug having an angle substantially equal to the first angle of the first sidewall (due to the fact that both sidewalls are identical). The angle of the first sidewall forms a line that is considered to be both substantially parallel and non-parallel to a line from the axis of the sprocket 12 through the driving portion 126. This non-parallel line intersects the line from the axis of the drive sprocket 12 at a point below the pitch line of the track, however it would be obvious that the intersection could be above the pitch line of the track if the angle of the sidewall of the lug were different. The driving portions 126 are equally radially spaced about the sprocket 12.

15. Claims 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagorcka. The track of Nagorcka includes a pitch line positioned between the interior and exterior surface of the track. Nagorcka contains all of the limitations as set forth in

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paragraph 12 above, but does not specify the angle 13 formed by the first sidewall of the driving lugs 11 with respect to the pitch line of the track is in the range of $[90 - (360/2n)] \pm 5, 3, 2, 1, \text{ or } 0$ degrees $\{n \text{ being the number of driving lugs on the track}\}$. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the angle of the first sidewall of the driving lugs 11 at any angle suitable to cause a positive interaction between the driving lug 11 and drive portion 7 of the sprocket 5, for the purpose of preventing slippage between the track and sprocket 5, thus reducing wear of both the track and the sprocket 5.

Nagorcka shows the second sidewall of the driving lug 11 having an angle 13 substantially equal to the first angle 13 of the first sidewall. The angle 13 of the first sidewall forms a line that is substantially parallel to a line from the axis of the sprocket 5 through the driving portion 7.

16. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagorcka as applied to claims 1-3 and 9-16 above, and further in view of Lemke et al. Nagorcka does not show the driving portion of the sprocket including a rotatable sleeve. Lemke et al teaches the use of a sprocket 900 having a rotatable sleeve 920 that serves as a driving portion. The sprocket 900 includes a first sleeve 920 and a second sleeve 922, both having co-linear axes. The first sleeve 920 is separated from the second sleeve 922. Lemke et al also shows the driving lugs (320 & 322) being arranged in two aligned rows on the inner surface of a track 310.

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Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the sprocket of Nagorcka with a pair of rotatable sleeves that act as the driving portion dependent upon the configuration of the driving lugs of the track.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references are considered to show specific configurations of the interaction of a sprocket and drive lugs of an endless belt. For example, Ueno shows a sprocket and track engagement.

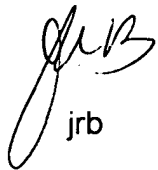
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R Bellinger whose telephone number is 703-308-6298. The examiner can normally be reached on Mon - Thurs (9:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Morano can be reached on 703-308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

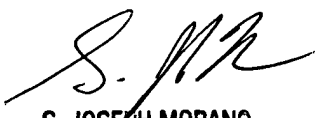
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason R Bellinger
Examiner
Art Unit 3617



jrb



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